

ATLANTIC SALMON SURVEYS
Semi-Annual Report
WDFW 06-1216 07-2123
PSMFC Contract # 06-37, 07-11 and 08-46
Contract # 06-1216 / 07-11 amount \$140,000
Contract # 07-2123 amount \$98,600

December 2008

INTRODUCTION

In 1999, the Pacific States Marine Fisheries Commission (PSMFC) established a program with a mission to prevent negative impacts associated with aquatic invasive species (AIS). This program includes AIS education and outreach, monitoring programs, research and inter-jurisdictional planning, coordination and grant administration. Funding for the program comes from Wallop Breaux (Sport fish Aid in Restoration), Bonneville Power Administration, NOAA Fisheries, and the U. S. Fish and Wildlife Services. The Program's primary focus on AIS Vectors is recreational watercraft and ballast water. In addition to educating recreational boaters and fishermen, the program includes outreach to marinas and other water dependent industries. Species addressed by the program include mitten crab, zebra mussel, green crab, and Atlantic salmon. Other species of concern include the New Zealand mudsnail, sea squirts, Asian carp, and Spartina (cordgrass). To accomplish their goals, PSMFC cooperates and contracts with numerous entities, including the Washington Department of Fish and Wildlife.

In 2003, WDFW, with funding from the Pacific States Marine Fisheries Commission and NOAA Fisheries, began snorkel surveys to look for the presence of Atlantic salmon juveniles and adults throughout Washington. The program was later expanded to include foot and float-boat surveys during the winter months. In the initial year 35 rivers and streams were surveyed several hundred juvenile Atlantic salmon were discovered in Scatter Creek below a commercial hatchery outflow. Initial scale and otolith analyses of the 109 juveniles captured indicated the fish were probably hatchery escapees. To date, the Atlantic salmon crews have captured 152 juvenile Atlantic salmon; all but three were from Scatter Creek. The other three were from X. All analyses of scales and otoliths have indicated these fish were of hatchery origin.

During the December 2008 survey period, the WDFW Snorkel Team captured no Atlantic salmon. Although, three adult Atlantic salmon were captured and given to WDFW during this survey period by commercial and recreational fishermen.

Atlantic salmon surveys were conducted between May 16, 2008 and December 12, 2008 using a two-person team (Appendix A). Surveys were limited in November and December due to extreme winter conditions that made fieldwork unsafe. As of December 12, 2008, a total of 882 surveys have been completed in 174 bodies of waters, 93 surveys in 46 streams and rivers were completed during this survey period (Table 1).

METHODS

Streams that could not be surveyed by snorkel due to water conditions were surveyed on foot, foot/hook and line, or backpack electrofishing. Foot and foot/hook and line surveys were conducted for returning adults during spawning seasons. Surveys under this contract focused primarily on rivers and streams near net-pen and hatchery facilities, although efforts were made to survey streams that had not been surveyed under the previous contract.

The team enters survey data into an Access database weekly, and all species observed are listed and identified as adult or juvenile. Length, weight, stomach contents, scale, sex, DNA and otolith samples are taken from any Atlantics captured, and analysis results are entered into the database.

The team distributed signs at fishing accesses throughout Western Washington to educate the public to report any Atlantic salmon captured or observed to WDFW. The signs provided key physical features of adult Atlantic salmon and a phone number to report sightings.

RESULTS

FOOT SURVEYS

Between May 16, 2008 and December 12, 2008, 24 surveys were conducted on foot (visual) when snorkeling was not the most effective sampling method or was not safe (Table 1). No Atlantic salmon or Atlantic salmon carcasses have ever been observed.

SNORKEL, & ELECTROFISHING SURVEYS & RESULTS

Between May 16, 2008 and December 12, 2008, 51 snorkel surveys were conducted in 26 rivers and streams (Table 1). During this survey period no Atlantic salmon were captured or observed.

Table 1. Number of Surveys and Methods

Survey Method	# Surveys Between 5/16/2008 to 12/12/2008	Total # of Surveys
Electrofishing	6	41
Float	0	41
Float Hook/Line	0	14
Foot	24	146
Foot Hook/Line	12	59
Snorkel	51	483
Seine	0	4
Total	93	882

To date, surveys have been conducted in the streams and rivers listed in table 2. Those with an asterisk (*) have been surveyed more than once and those with a pound (#) have not had any snorkel surveys conducted, only foot, backpack electrofishing, hook and line, or float boat surveys. Those in bold were surveyed between May 16, 2008 and December 12, 2008.

Table 2. List of all Rivers and Streams that have been surveyed as of December 12, 2008

Abernathy Creek	Germany Creek *	Racehorse Creek
Admiralty Inlet	Goble Creek	Raging River
Alder Creek	Gorst Creek	Rock Creek (Cedar River Tributary) * #
Anderson Creek #	Grandy Creek	Rock Creek (Chehalis Tributary) #
Bacon Creek *	Green River (Puget Sound Tributary) *	Rocky Creek #
Beaver Creek	Green River (Columbia Tributary)	Salmon River * #
Beckler Creek	Greenwater River *	Salt Creek #
Bertrand Creek #	Hamm Creek * #	Samish River *
Big Hanford Creek #	Hamma Hamma River *	Sammamish River #
Bingham Creek*	Hill Creek #	Saratoga Passage * #
Black River *	Hoko River *	Satsop River *
Bogachiel River * #	Hood Canal #	Satsop River East Fork *
Boulder Creek	Humtulpips River *	Satsop River Middle fork *
Breeze Creek	Humtulpips River East Fork *	Satsop River West Fork *
Browns Slough	Humtulpips River West Fork *	Sauk River *
Buck Creek	Hutchinson Creek	Sauk River North Fork
Burley Creek #	Independence Creek #	Scatter Creek *
Calawah River *	Issaquah Creek #	Seiku River *
Canyon Creek	Jackman Creek * #	Sherman Creek * #
Canyon Creek (Nooksack Tributary) #	Jones Creek #	Sherwood Creek #
Canyon River	Johns Creek *	Sibert Creek #
Carbon River *	Johns River *	Skagit River *
Cascade River *	Kalama River *	Skokomish River *
Cedar Creek *	Kapowsin Creek	Skookum River
Cedar Creek (Unnamed Tributary) *	Kennedy Creek *	Skookumchuck River *
Cedar River *	Klickitat River *	Skykomish River *
Chambers Creek *	Klickitat River (Little Klickitat River) #	Skykomish River North Fork *
Chehalis River *	Lewis River #	Snoqualmie River *
Chehalis River East Fork *	Lewis River (East Fork Wetland Site) *	Sol Duc River *
Chehalis River (Unknown Tributary)	Lewis River East Fork *	South Prairie Creek *
	Lewis River North Fork *	Spring Creek #
Chehalis River West Fork	Lilliwaup River *	Spurgeon Creek #
Cinnabar Creek *	Lincoln Creek #	Stavis Creek
Clark Creek #	Lummi River #	Stillaguamish River North Fork *
Clearwater River *	Lyre River *	
Cloquallum Creek * #	Mashell River *	Stillaguamish River South Fork *
Coal Mine Creek	McAllister Creek *	Sullivan Slough
Columbia River * #	McDonald Creek	Sultan River *
Copalis River	Mill Creek (Puget Sound Tributary) *	Summit Lake

Cornell Creek	Mill Creek (Columbia Tributary) *	Sund Creek #
Coulter Creek *	Mima Creek#	Swift Creek #
County Line Creek #	Minter Creek #	Tahuya River *
Coweeman River *	Morse Creek *	Taylor Creek
Cowlitz River *	Nemah River North Fork	Ten Mile Creek #
Cranberry Creek#	Newaukum Creek *	Thompson Creek #
Decker Creek *	Newaukum River *	Tilton River *
Deepwater Slough	Newaukum River South Fork *	Tokul Creek * #
Delezene Creek *	Newaukum River North Fork *	Tolt River *
Deschutes River *	Nisqually River *	Toutle River * #
Dewatto River *	Nooksack River #	Twanoh Creek#
Dosewallips River	Nooksack River Middle Fork *	Union River #
Dry Bed Creek	Nooksack River North Fork *	Unnamed Slough
Duckabush River *	Nooksack River South Fork #	Vance Creek
Dungeness River *	North River	Vesta Creek
Duwamish River	Ohop Creek *	Voights Creek
T105 Tributary #	Olequa Creek	Waddell Creek *
Elk Creek *	Perry Creek #	Wildcat Creek*
Elwha River *	Pilchuck River *	Wilkenson Creek
Fennel Creek #	Porter Creek *	Willipa River *
Finch Creek #	Prairie Creek #	Wiseman Creek*
Finney Creek *	Puget Sound (Hope Island) #	Wishkah River*
Fish Trap Creek #	Puyallup River *	Woods Creek #
Friday Creek #	Queets River * #	Workman Creek * #
Forks Creek	Quilicene River *	Wynoochee River *
Garrard Creek *	Quinault River #	Wynoochee River (Unnamed Tributary) *

REPORTED ATLANTIC SALMON CATCHES

WDFW tracks commercial and recreational fisheries through the use of commercial “Fish Tickets” and recreational “Catch Record Cards (CRC)” that are distributed with licenses for the various fisheries. These data include when, where, and number of fish harvested. It is the obligation of the recreational fishermen to turn in their CRC and mandatory for commercial fishermen to turn in their fish tickets. Commercial catches have been recorded in several areas of Puget Sound near net-pen facilities or the processing plant located near the mouth of the Duwamish estuary. Currently there are 4 saltwater net-pen sites in Washington owned by American Gold, Hope Island Skagit County, Cypress Island Skagit County, Port Angles Clallam County, and Bainbridge Island Kitsap County.

Recreational CRC no longer specifically list Atlantic salmon, leaving it up to the recreational angler to recognize the species and report it to WDFW. To make reporting easier for the public, a hotline number and color pictures of adult Atlantic salmon with a description of key physical features are located in the WDFW fishing pamphlet regulations. Also, signs are distributed at fishing accesses throughout Western Washington with the same information as in the fishing

pamphlet regulations (Appendix C). To date, 140 signs have been distributed to several sites where Atlantic salmon have been reported, captured, or due to their proximity to net-pens, processing plant or hatcheries (Appendix B).

Three adult Atlantic salmon were captured and turned into WDFW by commercial and recreational fishermen during this survey period. A recreational fisherman captured an adult first part of September at Admiralty Inlet, Island County near the mouth of Lake Hancock. The recreational fisherman only turned in the head therefore scales and sex was not analyzed. A commercial fisherman captured two adults on September 4, 2008 in Bellingham Bay, Whatcom County. We obtained the whole carcasses of both fish, sex, scales, and otoliths samples were taken. Otoliths were not marked on any of the fish and scale analysis of one of the fish indicated possible wild origin (Table 3).

Table 3. Captured Atlantic Salmon By Commercial And Recreational Fishermen

Date	Water Body	County	Fork Length (mm)	Sex	Otoliths	Scales
Sept 08	Admiralty Inlet	Island	Adult	N/A	Not Marked	N/A
Sept 4, 08	Bellingham Bay	Whatcom	752	Immature Female	Not Marked	Possible Wild
Sept 4, 08	Bellingham Bay	Whatcom	725	Mature Male	Not Marked	Hatchery

REPORTED ESCAPES

Since the mid-term report in 2006, no new Atlantic salmon escapes have been reported in Washington. Although, approximately 30,000 adult Atlantic salmon escaped from a net-pen on Vancouver Island near Campbell River. This does not mean no escapes have occurred; only that none have been reported. If an escape is small enough, the subject responsible does not have a legal obligation to report it. The last reported escapement in Washington occurred February 10, 2005, when approximately 2500 juvenile Atlantic salmon escaped from the Hope Island net-pens.

BUDGET REPORT

WDFW contract # 06-1216 was for \$140,000, and staffing is still 1 survey team of 2 employees. WDFW Contract # 07-2123 is for \$98,600. We have maintained experienced staff trained to recognize Atlantic salmon by both appearance and behavior, which has resulted in slightly higher pay scales. The team uses agency vehicles, which minimizes travel expenses. Initially the team used two vehicles, parking one at the end point of the survey and the other at the start. This enables longer stretches to be covered because staff does not have to hike back up to the start vehicle. To reduce fuel expenses we purchased a scooter and eliminated one of the field trucks. The snorkel team was laid off from December 31, 2007 until March 1, 2008. They have also

been used on occasion this spring to help out on other projects such as serving as dockside staff assisting with tunicate removal efforts. These hours charged to other budgets along with periods when heavy rains and turbid waters make it unsafe to work has enabled the Atlantic salmon funding to be stretched out to the end of this year, 2008 (Table 4).

**Table 4. WDFW Contract # 07-2123 Atlantic Salmon
Expenditures
05/01/2008 – 12/30/2008**

Salaries	N/A
Benefits	N/A
Goods & Services	N/A
New Equipment	N/A
Travel	N/A
Overhead	N/A
TOTAL	N/A

*Back pay on benefits – the amount that should be charged to a different account will be calculated and credited back into the Atlantic salmon funds.

ANALYSIS

No Atlantic salmon were captured or observed during the December 2008 survey period by the WDFW Snorkel Team. However, commercial and recreational fishermen turned three adults into WDFW. The otoliths were not marked on any of the fish. We can cross reference the otolith and scale analysis with only two fish because scales were not obtained from the third. The scale analysis indicated one of the fish was hatchery origin and the other was not. If this fish were naturally reproduced in the wild, it would be the first case documented in Washington State.

Scatter Creek has been re-surveyed 15 times between 5/16/2008 and 12/12/2008, no Atlantic salmon were captured or observed during this period. There are no reports available regarding smolt captured in the scoop trap located approximately 2 miles below the mouth of Scatter Creek on the Chehalis River. The small farm on Cinnabar Creek, Lewis County was also re-surveyed twice during this survey period using backpack electrofishing. No Atlantic salmon was found.

Appendix A: Streams Surveyed Between May 16, 2008 And December 12, 2008
Latitude And Longitude Units Degrees And Minutes

Date	Stream Name	Sampling Method	Start Lat.	Start Long.	End Lat.	End Long.
6/3/08	Satsop River East Fork	Snorkel	47°06.657	123°26.495	47°06.404	123°26.703
6/4/08	Hamma Hamma River	Snorkel	47°35.652	123°07.671	47°35.280	123°06.361
6/16/08	Satsop River East Fork	Snorkel	47°06.385	123°26.696	47°05.915	123°27.734
6/17/08	Scatter Creek	Snorkel	Hatchery			Pool
6/18/08	Clearwater River	Snorkel	47.06.842	121°46.808	47°07.643	121°48.116
6/25/08	Cedar Creek	Foot	Cedar	Creek		Campground
6/25/08	Cedar Creek (Unnamed Tributary)	Foot	46°53.838	123°08.818		
6/25/08	Scatter Creek	Snorkel	Hatchery			Pool
6/26/08	Skokomish River	Foot	Brown	Creek		Campground
6/30/08	Skokomish River	Snorkel	Anadromous	Barrier	47°28.824	123°27.049
7/1/08	Cowlitz River	Foot	Blue			Creek
7/1/08	Cowlitz River	Foot	46°24.858	122°53.393	Bridge	I-5
7/3/08	Cinnabar Creek	Electroshock	46°34.746	122°31.006		
7/3/08	Coweeman River	Snorkel	46°09.650	122°39.771	46°09.621	122°40.024
7/8/08	Cowlitz River	Foot Hook/Line	46°24.858	122°53.393		
7/10/08	Lewis River East Fork	Snorkel	HWY 503	City Park	HWY 503	Launch
7/15/08	Skokomish River	Snorkel	47°18.569	123°10.482	47°18.400	123°08.961
7/16/08	Green River	Snorkel	47°19.185	121°53.669	47°19.012	121°53.471
7/17/08	Cinnabar Creek	Electroshock	46°36.301	122°30.549	46°35.810	122°30.631
7/21/08	Nooksack River North Fork	Foot	Nooksack			Falls
7/22/08	Bacon Creek	Snorkel	48°36.815	121°24.074	48°36.380	121°23.901
7/22/08	Skykomish River	Foot	Boulder			Drop Hole
7/23/08	Beckler Creek	Snorkel	47°44.549	121°19.191	Beckler Creek	Campground
7/24/08	Scatter Creek	Snorkel	Hatchery			Pool
7/29/08	Porter Creek	Electroshock			46°58.594	123°16.394
7/30/08	Cedar Creek (Unnamed Tributary)	Electroshock	46°53.725	123°09.305	46°53.717	123°09.178
7/30/08	Cedar Creek	Electroshock	46°53.717	123°09.178	46°53.725	123°09.305
7/31/08	Skokomish River	Snorkel	47°18.569	123°10.482	47°18.401	123°08.963
8/5/08	Quilicene River	Foot	47°48.688	122°54.690	47°49.075	122°53.379
8/6/08	Quilicene River	Snorkel	47°49.150	122°51.884	47°49.107	122°51.518
8/6/08	Scatter Creek	Snorkel	Hatchery			Pool
8/7/08	Scatter Creek	Snorkel	Hatchery			Pool
8/7/08	Scatter Creek	Foot Hook/Line	Hatchery			Pool
8/20/08	Chehalis River	Foot	46°33.382	123°18.259		
8/20/08	Scatter Creek	Snorkel	Hatchery			Pool
8/20/08	Chehalis River	Foot	46°32.777	123°17.954		
8/23/08	Nooksack River Middle Fork	Foot Hook/Line	48°47.069	122°06.756		
8/24/08	Nooksack River Middle Fork	Snorkel	48°47.069	122°06.756	48°48.249	122°07.418
8/25/08	Waddell Creek	Foot	46°56.383	123°04.657	46°55.232	123°02.821
8/26/08	Workman Creek	Foot	46°58.154	123°25.507		

8/26/08	Delezen Creek	Foot	46°56.349	123°23.546	46°56.380	123°23.406
8/27/08	Chehalis River	Foot Hook/Line	46°59.023	123°25.891		
9/2/08	Deschutes River	Foot	46°55.622	122°18.717	46°55.583	122°48.708
9/4/08	Tilton River	Electroshock	Mouth	Tilton	Creek	Cinnabar
9/5/08	Porter Creek	Snorkel	Porter	Creek		Campground
9/5/08	Scatter Creek	Snorkel	Hatchery			Pool
9/11/08	Admiralty Inlet	Snorkel	48°06.792	122°35.838	Hancock Lake	Tributary
9/24/08	Canyon Creek (Nooksack Tributary)	Foot	48°50.035	122°08.134	48°50.094	122°09.097
9/24/08	Nooksack River Middle Fork	Foot	Mouth	Canyon Creek	Bridge	Nooksack
9/30/08	Dungeness River	Snorkel	48°6.28.8	123°9.17.9	Mouth	Dungeness
10/1/08	Elwha River	Snorkel	48°08.575	123°33.851	48°08.693	123°33.771
10/2/08	Scatter Creek	Snorkel	Hatchery			Pool
10/6/08	Skookumchuck River	Snorkel	46°47.274	122°43.301		
10/6/08	Skookumchuck River	Snorkel	46°43.481	122°58.086	46°43.192	122°58.797
10/8/08	South Prairie Creek	Snorkel	47°06.638	122°08.652	South Prairie	Creek Mouth
10/8/08	Carbon River	Foot Hook/Line	Sewage			Plant
10/9/08	Green River	Foot Hook/Line	47°28.077	122°14.624		
10/13/08	Nooksack River Middle Fork	Foot Hook/Line	Confluence			
10/13/08	Nooksack River Middle Fork	Foot	Confluence			
10/14/08	Samish River	Foot Hook/Line	Trestle			
10/16/08	Porter Creek	Snorkel	Bridge	HWY 12		Barrier
10/16/08	Scatter Creek	Snorkel	Hatchery			Pool
10/20/08	Satsop River East Fork	Snorkel	Schaffer	Park	Pearl Street	Bridge
10/27/08	Green River	Snorkel	Kanasket	Park		
10/28/08	Fish Trap Creek	Foot	48°54.858	122°31.209		
10/28/08	Bertrand Creek	Foot	48°55.499	122°31.755	48°55.490	122°31.806
10/28/08	Ten Mile Creek	Foot	48°51.234	122°34.356		
10/28/08	Anderson Creek	Foot	48°51.284	122°20.313	48°51.418	122°20.265
10/29/08	Nooksack River North Fork	Snorkel	48°51.197	122°08.712	48°52.970	122°08.952
10/29/08	Nooksack River Middle Fork	Foot Hook/Line	48°50.535	122°17.596		
10/30/08	Porter Creek	Snorkel	48°47.588	122°07.005	48°47.636	122°06.914
10/30/08	Nooksack River Middle Fork	Snorkel	48°47.588	122°07.005	48°47.243	122°07.067
11/3/08	Scatter Creek	Snorkel	Hatchery			Pool
11/4/08	Duckabush River	Snorkel	47°39.888	122°58.236		
11/5/08	Satsop River East Fork	Foot Hook/Line	47°06.763	123°30.613		
11/6/08	Satsop River East Fork	Foot Hook/Line	47°05.892	123°27.905		
11/19/08	Wishkah River	Snorkel		Barrier	47°09.835	1194°3.873
11/20/08	Scatter Creek	Snorkel	Hatchery			Pool
11/20/08	Sherman Creek	Foot	46°56.194	123°07.764		
11/21/08	Green River	Foot	Park	Kanasket		
11/21/08	South Prairie Creek	Snorkel	47°08.210	122°04.711	Course	Paintball
11/21/08	Wilkeson Creek	Snorkel	South	Prairie	Creek	Mouth
11/25/08	Skookumchuck River	Snorkel	Dam			Hatchery
11/26/08	Scatter Creek	Snorkel	Hatchery			Pool

12/1/08	Forks Creek	Snorkel	Hatchery		Forks Creek	Mouth
12/1/08	Willipa River	Snorkel	Forks Creek			Trap Creek
12/2/08	Wynoochee River (Unnamed Tributary)	Snorkel	Wynoochie			Mouth
12/3/08	Scatter Creek	Foot	Hatchery			Pool
12/4/08	Johns River	Foot Hook/Line	Ballon			Creek
12/9/08	Willipa River	Snorkel	46°33.286	1233°6.183		
12/10/08	Willipa River	Snorkel	HWY 6			Bridge
12/11/08	Scatter Creek	Snorkel	Hatchery			Pool
12/12/08	Greenwater River	Snorkel	47°07.308	121°32.475	47°07.246	121°33.310

Appendix B: Distribution Of Atlantic Salmon Information Signs- Latitude And Longitude Units Degrees And Minutes

Water Body	County	Location	Latitude	Longitude
Black River	Thurston	Moon Road WDFW Launch	46°49.773	122°07.954
Black River	Grays Harbor	HWY 12 WDFW Launch	46°49.815	122°11.054
Black River	Thurston	WDFW Littlerock Road	46°52.408	123°01.382
Carbon River	Pierce	River Mile 2	47°20.057	122°12.662
Carbon River	Pierce	River Mile 3	47°18.091	122°10.473
Chehalis River	Lewis	Borst Park Launch	46°43.174	122°59.065
Chehalis River	Grays Harbor	Porter Launch	46°56.207	123°18.882
Chehalis River	Grays Harbor	Montesano HWY 107	46°57.776	123°36.143
Chehalis River	Grays Harbor	Cosmopolis	46°58.167	123°31.667
Chehalis River	Grays Harbor	Satsop Confluence	46°59.963	123°29.444
Chehalis River	Grays Harbor	N/A	46°56.297	123°18.882
Chehalis River	Grays Harbor	Montesano HWY 107	46°57.776	123°36.143
Chehalis River	Grays Harbor	N/A	46°59.963	123°29.444
Chehalis River	Lewis	N/A	46°43.172	122°52.068
Chehalis River	Thurston	Independence Road	46°48.014	123°09.186
Chehalis River	Grays Harbor	WDFW Access	46°58.769	123°28.651
Chehalis River	Grays Harbor	WDFW Access	46°58.769	123°28.651
Chehalis River	Grays Harbor	N/A	46°56.322	123°18.861
Columbia River	Cowlitz	N/A	46°00.568	122°50.918
Cowlitz River	Lewis	N/A	46°27.537	122°48.395
Cowlitz River	Lewis	N/A	46°29.067	122°43.770
Cowlitz River	Lewis	N/A	46°30.970	122°38.185
Cowlitz River	Lewis	N/A	46°24.820	122°53.481
Cowlitz River	Lewis	N/A	46°06.697	122°53.677
Cowlitz River	Lewis	Blue Creek Launch	46°29.147	122°43.484
Cowlitz River	Lewis	Barrier Dam Launch	46°30.980	122°38.195
Cowlitz River	Lewis	WDFW Access	46°29.335	122°42.290
Cowlitz River	Lewis	WDFW Access	46°24.821	122°53.411
Dungeness River	Clallam	Saltwater Launch	48°05.844	123°02.733
Dungeness River	Clallam	School House Road Bridge	48°08.654	123°07.749
Dungeness River	Clallam	Railroad Bridge	48°05.135	123°08.725
Dungeness River	Clallam	Fish Hatchery Road	48°02.072	123°08.655
Dungeness River	Clallam	Hatchery	48°01.621	123°08.223
Green River	King	N/A	47°18.072	123°10.425
Green River	King	Green Valley Road	47°16.861	123°02.543
Green River	King	Green Valley Road	47°16.817	122°02.157
Green River	King	Flaming Geyser State Park	47°16.391	122°01.382
Green River	King	Flaming Geyser State Park	47°16.298	122°03.116
Green River	King	Bridge Below F.G. State Park	47°16.990	122°03.212
Green River	King	N/A	47°18.076	122°10.525
Green River	King	Auburn Park	N/A	N/A

Green River	King	N/A	47°28.077	122°14.624
Green River	King	I-5	47°29.329	122°15.935
Green River	King	115th Street	47°29.329	122°15.151
Green River	King	Boeing Plant	47°30.195	122°17.734
Humtulpis River	Grays Harbor	HWY 109 Bridge	47°02.992	124°02.603
Humtulpis River	Grays Harbor	DOT Park And Ride	47°13.817	123°57.593
Humtulpis River	Grays Harbor	Hansen Road	47°13.886	123°58.388
Kalama River	Cowlitz	N/A	46°02.848	122°50.176
Kalama River	Cowlitz	N/A	46°02.345	122°51.821
Lake Union	King	Marina	47°39.028	122°19.790
Lake Union	King	HWY 99 Launch	47°40.060	122°23.776
Lake Union	King	N/A	47°39.025	122°21.158
Lewis River East Fork	Lewis	City Park	45°48.840	122°35.422
Morse Creek	Clallam	Red Cedar Lane	N/A	N/A
Morse Creek	Clallam	Canyon View Drive	N/A	N/A
Morse Creek	Clallam	North Ridge View Drive	N/A	N/A
Morse Creek	Clallam	Bridge Lane	N/A	N/A
Morse Creek	Clallam	Island View Drive	N/A	N/A
Morse Creek	Clallam	Mouth	48°07.011	123°21.007
Morse Creek	Clallam	N/a	48°06.229	123°21.409
Nisqually River	Thurston	Launch	46°58.559	122°38.115
Nooksack River	Whatcom	N/A	48°50.588	122°35.379
Nooksack River Middle Fork	Whatcom	Mosquito Lake Road	47°02.992	124°02.603
Nooksack River Middle Fork	Whatcom	Mosquito Lake Road Bridge	48°47.107	122°06.785
Nooksack River North Fork	Whatcom	N/A	48°54.282	121°52.454
Nooksack River North Fork	Whatcom	Horseshoe Bend Trail Head	48°54.163	121°54.653
Nooksack River North Fork	Whatcom	Bridge	48°90.304	122°09.176
Puget Sound	Island	Lagoon Point	48°04.976	122°36.568
Puget Sound	Island	Bush Point Launch	48°02.021	122°36.141
Puget Sound	Island	Lagoon Point Private Launch	48°04.765	122°36.688
Puget Sound	Whatcom	N/A	48°47.496	122°35.180
Puyallup River	Pierce	Riverside Drive Bridge	47°10.202	122°13.008
Puyallup River	Pierce	Riverside Drive Bridge	47°10.202	122°13.008
Puyallup River	Pierce	McCutcheon Road	47°08.407	122°13.606
Puyallup River	Pierce	McCutcheon Road	47°08.430	122°13.563
Puyallup River	Pierce	N/A	47°12.067	122°15.222
Puyallup River	Pierce	N/A	47°12.024	122°15.520
Puyallup River	Pierce	N/A	47°12.023	122°15.546
Samish River	Skagit	Bayview Edison Road	N/A	N/A
Samish River	Skagit	Market Road	N/A	N/A
Samish River	Skagit	Thomas Road	N/A	N/A
Samish River	Skagit	Ershing Road	N/A	N/A
Samish River	Skagit	Old HWY 99	N/A	N/A
Samish River	Skagit	Grip Road	N/A	N/A
Samish River	Skagit	Prairie Road	N/A	N/A
Samish River	Skagit	Wickersham Road	N/A	N/A

Samish River	Skagit	Doron Road	N/A	N/A
Samish River	Skagit	Bayview Edison Road	48°33.297	122°27.109
Samish River	Skagit	Old 99 bridge	48°32.859	122°20.212
Samish River	Whatcom	N/A	47°07.759	122°14.074
Samish River	Whatcom	Mouth	48°39.268	122°29.563
Satsop River	Grays Harbor	HWY 12	46°59.963	123°29.444
Satsop River	Grays Harbor	N/A	46°25.968	123°30.310
Satsop River East Fork	Mason	Schaffer State Park	47°05.906	123°27.734
Satsop River Middle Fork	Grays Harbor	Tornow Road	47°09.235	123°29.979
Skagit River	Skagit	Hamilton	48°31.037	121°58.791
Skagit River	Skagit	Rasar State Park	48°30.921	121°54.183
Skagit River	Skagit	N/A	48°31.141	121°51.045
Skagit River	Skagit	Van Horn	48°30.805	121°40.176
Skagit River	Skagit	Howard Miller Steelhead Park	48°29.118	121°35.608
Skagit River	Skagit	Howard Miller Steelhead Park	48°29.024	121°35.563
Skagit River	Skagit	Cascade River	48°31.607	121°25.634
Skagit River	Skagit	Baker Snoqualmie NF Launch	48°207.712	121°32.866
Skagit River	Skagit	Zo Road	48°27.285	122°30.716
Skagit River	Skagit	Cascade River Launch	48°31.600	121°25.601
Skagit River	Skagit	Marten Road	48°18.778	121°52.287
Skagit River	Skagit	N/A	48°29.153	122°10.149
Skagit River	Skagit	N/A	48°29.025	122°14.575
Skagit River	Skagit	N/A	48°25.084	122°20.508
Skagit River	Skagit	N/A	48°29.647	122°32.560
Skagit River North Fork	Skagit	N/A	48°21.807	122°24.991
Skagit River South Fork	Skagit	Fir Island Bridge	48°20.507	121°20.985
Skagit River South Fork	Skagit	N/A	48°20.491	122°21.002
Skookumchuck River	Lewis	Bloody Run Creek	N/A	N/A
Skookumchuck River	Lewis	Hatchery	N/A	N/A
Skookumchuck River	Thurston	Hatchery	N/A	N/A
Skookumchuck River	Thurston	HWY 507 Bridge	46°45.215	122°56.414
Skookumchuck River	Thurston	WDFW Pheasant Release Site	46°47.419	122°44.123
Skookumchuck River	Thurston	Hatchery	46°47.456	122°44.002
Skookumchuck River	Thurston	Hatchery	46°47.458	122°43.598
Skookumchuck River	Thurston	Hatchery	46°47.378	122°43.478
Skookumchuck River	Thurston	Hatchery	46°47.361	122°43.319
Snoqualmie River	King	N/A	47°33.085	121°50.637
Snoqualmie River	King	N/A	47°34.087	121°52.885
Snoqualmie River	King	N/A	47°38.338	121°55.589
Snoqualmie River	King	N/A	47°44.712	121°59.153
Snoqualmie River	King	Raging River Launch	N/A	N/A
Stilliguamish River	Snohomish	N/A	48°12.703	122°20.382
Stilliguamish River	Snohomish	N/A	48°12.178	122°07.738
Stilliguamish River	Snohomish	N/A	48°11.817	122°14.646
Stilliguamish River North Fork	Snohomish	Forston Rearing Ponds	48°16.504	121°43.797
Straight of Juan De Fuca	Clallam	Dungeness Landing Launch	48°09.111	123°08.595

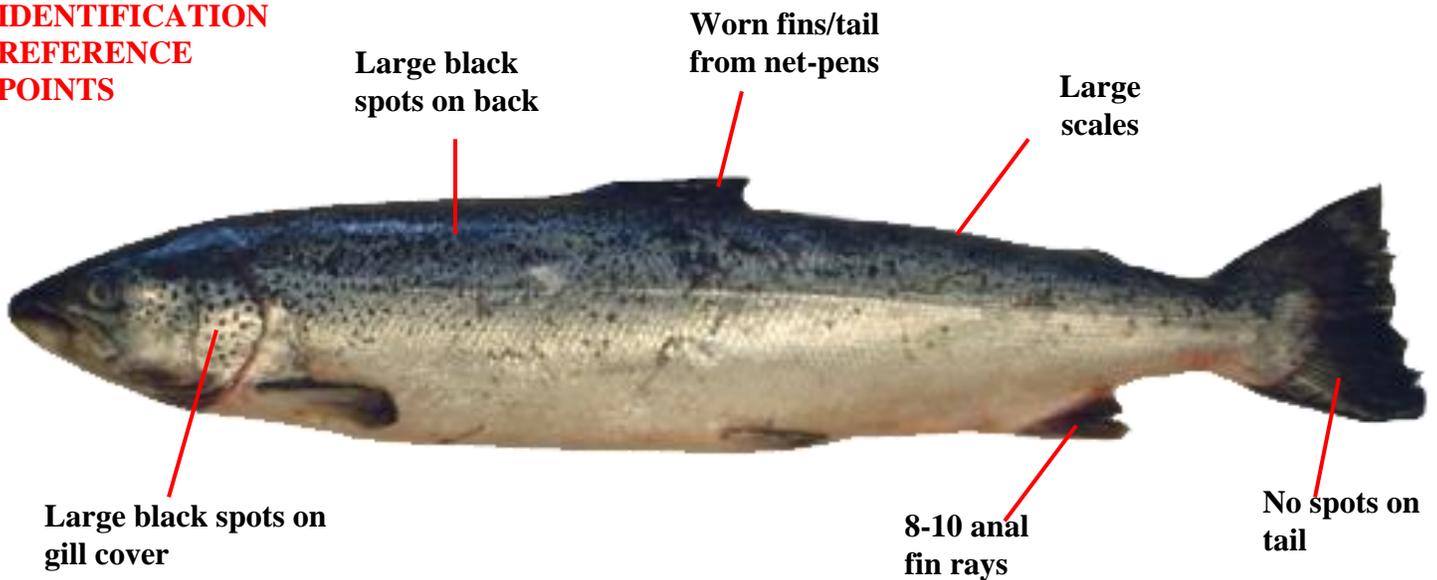
Straight of Juan De Fuca	Clallam	Ediz Hook	48°08.526	123°25.600
Straight of Juan De Fuca	Clallam	Marina by Ediz Hook	48°07.642	123°27.398
Straight of Juan De Fuca	Clallam	Marina by Ediz Hook	48°07.642	123°27.398
Straight of Juan De Fuca	Clallam	Marina by Ediz Hook	48°07.642	123°27.398
Swinomish Channel	Skagit	La Conner Public Launch	48°23.191	122°30.002
Toutle River	Cowlitz	Barnes Road	46°19.066	122°54.377
Wynoochee River	Grays Harbor	Wynoochee Road Launch	47°06.277	123°40.397

Appendix C: Identification And Report Atlantic Salmon Sign



(360) 902-2700

IDENTIFICATION REFERENCE POINTS



Washington Department of Fish and Wildlife (WDFW) is monitoring all state waters for Atlantic salmon. If you catch or see an Atlantic salmon, please retain the fish and contact WDFW at **360 902-2700**. Please provide information on where and when you caught or observed the fish. WDFW would also like to retrieve the whole fish or head for research purposes.

- Atlantic salmon are cultured commercially at fresh water hatcheries and reared in marine net-pens in Puget Sound.
- Fishery managers are concerned that escaped Atlantic salmon may negatively impact native fish stocks. Some native salmon and steelhead stocks in Washington are listed as "threatened" or "endangered" under the *Endangered Species Act*, which has heightened the concern.
- The potential impacts by escaped Atlantic salmon include competition for food and/or habitat, predation, disease transfer, hybridization, and colonization with native stocks of fish.